RE: Summer 2004 LOS TWG meeting - Message (HTML)

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From: John Taylor [jes.taylor@dsl.pipex.com] Sent: Tue 7/20/2004 1:06 PM
To: 'Caputo, Raymond G ERDC-TEC-VA'
Cc:
Subject: RE: Summer 2004 LOS TWG meeting

Ray,

Unfortunately I will not be able to attend this meeting, but hope to do so for successive meetings, so please keep me on the distribution list. The TEC site has been inaccessible to me for about three weeks now, so any news on that coming online would be appreciated when you have the time.

I am investigating approaches to bringing elevation data into Oracle for subsequent spatial analysis, and would appreciate any contacts that you may have regarding this. If you wish to publicise this at the meeting in the general information brief then please feel free.

Basically, I intend to look at the issues of storing elevation data as a 3D point vector file, a 'vector' matrix file or as we are so used to seeing them, a raster format. The issues I wish to avoid are the associated introduction of systematic and non-systematic errors to raster DEMs caused by transformation and reprojection as experienced in most analysis application software, and the inability to value add to the data with cultural, vegetation and other micro-level terrain data as it is collected.

The goal here is to be able to create reasonable representations of derivative products such as slope/aspect, drainage flow etc without being constrained by the need to reproject the data first, and that any subsequent projection will use the best available transformation parameters, and avoid the resampling techniques applied to much of this data.

Any comments or steers to relevant research by the LOS TWG community will be appreciated.

Best regards and best wishes for a successful meeting,

John Taylor
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-----Original Message-----
From: Caputo, Raymond G ERDC-TEC-VA [mailto:Raymond.G.Caputo@erdc.usace.army.mil]
Sent: 20 July 2004 14:59

Know the Earth…Show the Way

Commercial Joint Mapping ToolKit (C/JMTK)

Test Issue Work-off Status

16 June 2004

Susan Riley, Program Manager
Mike Roivas, C/JMTK COR
James Eakin, Technical Lead
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

Intervisibility / Terrain Masking / LOS TEM

- Analysis
  - Same DTED and horizontal point positions used
  - Determination of elevation key to these algorithms
    - Different determination/use of DTED posts (see slope)
    - Different interpolation methods used (see slope)
  - Army ERDC-TEC evaluation of ESRI LOS algorithm:
    - DTED 2-Irwin East: ESRI has 92.4% agreement and best was 95.8% agreement
    - DTED 2-Irwin West (rougher terrain): ESRI was 88.66%, against best of 91.66%
  - NGA/ERDC MOA
    - BTRA LOS algorithm is highly regarded in the TEC analysis - usually best or next best solution
    - As of C/JMTK 1.1, BTRA LOS algorithm will be downloadable from the CJMTK website as a CJMTK enhancement.
    - MOA currently in coordination at NGA

Intervisibility / Terrain Masking / LOS TEM (cont.)

- Conclusion
  - ESRI LOS algorithm has passed TEC testing against ground truth with reasonable accuracy, thus C/JMTK requirements related to LOS, Intervisibility and Terrain Masking have been validated
  - As of C/JMTK 1.1, mission application developers would have the choice to use either the ESRI LOS algorithm or the BTRA LOS algorithm
- Recommendation
  - Service/Agency representatives accept C/JMTK solutions for Intervisibility/Terrain Masking/LOS calculations
  - Changes to C/JMTK capabilities would be through submissions of discrepancy/problem reports and new requirements following standard C/JMTK processes
  - No C/JMTK Intervisibility / Terrain Masking / LOS TEM required